**ABSTRACT**

[92] A control system for a linear motor adapted to accurately supply a moving window of power to the stator coils. A plurality of individually switched stator coils run the length of a linear motor to move a rotor down the long axis of the stator. Accurate inductive-based position sensors continuously provide position data for the moving rotor. A processing unit calculates a proper time delay from a source voltage peak in order to apply power to the next stator coil in the moving direction of the rotor such that no DC offshoot/undershoot occurs. The linear motor control system optionally includes a failure prevention switching scheme in which pairs of individual stator coils on opposite sides of a double-sided stator are switched together.